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ABSTRACT

The purpose of this paper is to describe the development/reliability/validity of a teacher instrument to assess the organizational coupling structure (OCS) of schools. A secondary purpose is to describe the implications of this work for understanding school coupling structure as a complex, "paradoxical" measurement and theoretical construct. The study continues the development and refinement of a multidimensional inventory--the 98-item Organizational Coupling Structure Inventory-Teacher Form (OCSI-T)--derived from a previous pilot work. In the spring of 1989, all teachers in 96 elementary and secondary schools (ESS) were mailed the OCSI-T, a demographic information form, and the 8-item Index of Perceived Organizational Effectiveness. Usable data were received from 1,843 teachers (an overall response rate of 61%) from 73 schools. Standardized student achievement and school average daily attendance data were also collected. Descriptive statistics, instrument structure, reliability, and validity assessments were conducted. The OCSI-T is a reasonably valid and reliable inventory for measuring five dimensions of OCS in schools from the teacher perspective. The OCSI-T dimensions were largely statistically independent and showed moderate to high internal consistency reliabilities. The coupling perspective appears more useful in understanding effective schools as organizations than in understanding effective schools in terms of school productivity or indices of school holding power. The findings relative to manipulative control support the paradoxical view of the coupling construct. Overall, the OCSI-T coupling dimensions did not account for considerable variation in school achievement. (RLC)

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Development, Reliability and Validity of a Teacher Instrument to Assess Organizational Coupling Structure of Schools: Implications for the Conception of Coupling as a "Paradox"

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Introduction

A variety of alternative organizational and environmental perspectives are available and potentially useful in studying the organizational features and learning environments of schools. The model or metaphor of "loose coupling" has gained considerable attention within the study of formal organizations, and during the past 20 years, schools and school systems have commonly been typically depicted as "loosely structured" organizations (Bidwell, 1964; Weick, 1976; Meyer and Rowan, 1978). One of the earliest descriptions of "loose coupling" is provided by Glassman (1973) in which loose coupling is addressed as a model for living systems. The coupling metaphor has been extended to understanding schools as organizations from a variety of perspectives. Definitions of coupling (Weick, 1976; Miskel & McDonald, 1982; Firestone and Wilson, 1985) also vary considerably. However, the coupling construct as it applies to schools typically refers to a pattern of organizational and interpersonal mechanisms that serve to link together management characteristics and selected elements of the school social environment (Logan, 1989).

Within the effective schools literature, attention has been directed to the organizational attributes of schools that have been characterized as effective. Recent research and commentary on the instructionally effective schools indicate that tight linkages enhance effectiveness (Edmonds, 1979). Firestone and Wilson (1985) argue that principals can identify linkages to or among teachers that are tight or can be tightened and can use them to influence the quality instruction and subsequent achievement. Such linkages can conceivably alter elements of the total school learning environment in ways that facilitate or impede school effectiveness. Most educators are now familiar with the effective schools "formula," as popularized by Ronald Edmonds and other researchers (Stedman, 1987); and many of the calls for school reform cite the findings form recent research on effective teaching and effective schools as examples of how schools and classrooms should change (Glickman, 1987). However, several limitations of the effective schools research have been noted (Cuban, 1983; Hoy and Ferguson, 1985).

The tightly coupled image of instructionally effective schools conflicts with the variable mixture of

organizational coupling often found in business organizations (Astuto & Clark, 1985). Some patterns of coupling may enhance organizational effectiveness, whereas, other patterns of coupling may diminish the capacity of organizations to be effective. Considering the complexity of this relationship, Astuto & Clark (1985) argue that the key to organizational effectiveness is not the arbitrary tightening or loosening of coupling, but the sensitivity to coupling as an organizational variable and the identification of patterns of coupling that enhance or impede organizational effectiveness. Recently, Orton and Weick (1988) have argued for a "paradoxical" view of coupling in schools. This view suggests that coupling in schools and other organizations can occur in a variety of combinations and in patterns of simultaneous coupling and uncoupling of elements.

Logan (1989) provides some support for Orton and Weick's (1988) view of coupling as it is applied to understanding variation in combinations of coupling structures in demonstrably effective and ineffective schools. Logan's (1989) findings suggest that "effective" schools can be characterized by a variety of coupling patterns and, that the "tight ship" metaphor for describing effective schools may not be appropriate at all. The particular combination of coupling features associated with effective schools may be unique and may interact as well with a variety of other school environment variables. Elements of the school climate and the generalized quality of the learning environment may be important among these other variables.

This study continues the development and refinement of an instrument derived from previous pilot work to measure teachers' perceptions of coupling structure in schools (Logan & Ellett, 1989). A review of the literature on organizations in general and educational organizations in particular, identified several previous attempts to measure aspects of coupling structure. Most of these studies have been criticized because of conceptually flawed and unreliable measurement (Orton and Weick, 1988). Thus, this study seeks to expand the measurement of the coupling construct by continued refinement of a multi-dimensional inventory (OCSI-T) (Logan and Ellett, 1989).

The notion of "coupling" in the study of schools as organizations has typically focused on the degree to which a school was either "loosely" or "tightly" coupled. Most instruments used to measure aspects of coupling have incorporated only a small number of the potential coupling mechanisms in an organization (school). This study seeks

to expand the measurement of the coupling construct by:

1. Continuing to refine and develop a multi-dimensional inventory to measure coupling.
2. Use the instrument to explore relationships between coupling and indices of school effectiveness.
3. Collecting data pertinent to exploring the "paradoxical" perspective formulated by Orton and Weick (1988) about the notion of coupling in schools.

This study generated data that may prove useful in "debunking" assumptions about the five chief correlates of effective schools. Educational studies of effective schools have been criticized for the absence of a sound theoretical framework (e.g. Hoy and Ferguson, 1985). The literature on effective schools is primarily based on a limited number of case studies and typically identifies five chief correlates of effective schools: 1) principal characterized as a strong instructional leader; 2) pervasive and broadly understood instructional focus; 3) an orderly, safe climate conducive to teaching and learning; 4) teacher behaviors that convey the expectation that all students are to obtain at least minimum mastery; and 5) the use of measures of pupil achievement as the basis for program evaluation. The primary focus of the majority of these studies has been on the principal as a change agent within schools. While these findings are interesting, they are not derived from a sound theoretical base and tend to be rather "practitioner" oriented and "prescriptive" in nature. In bolstering this point, Bossert, Dwyer, Rowan and Lee (1982) state that:

> "...aside from the standard educational administration admonitions that describe what a good manager should do, the research and practice literatures do not present models that describe how certain management or leadership acts actually become translated into concrete activities which help children succeed in school" (p.34).

The conceptual framework used to organize this study assumes the school to be a complex social system consisting of a variety of coupling features. Based on this premise, both effective and ineffective schools would have coupling features. However, knowledge of patterns of coupling features that may exist in effective and ineffective schools is limited. For example, a group of schools that are equally effective on school outcome measures, might vary considerably in their pattern of organizational coupling structure.

Purpose

The purpose of this paper is to describe the development, reliability and validity of a teacher instrument to assess the organizational coupling structure of schools. A secondary purpose is to describe the implications of this

work for understanding school coupling structure as a complex, "paradoxical" measurement and theoretical construct. The paper is grounded in a larger research study completed by Logan (1989) and the prior work of Logan and Ellett (1989).

Methodology and Procedures

Sample

All teachers in 96 elementary and secondary schools in a southeastern county school district were invited to participate in the study. Usable data were received from seventy-three schools. Table 1 provides a profile of the participating schools for the total sample of schools and by school level.

In all, 1,843 usable instrument sets were returned. The teacher response rate for the overall sample was 61 percent. The teacher response rate for elementary schools was 71 percent and 47 percent for secondary schools. Of the 96 schools surveyed, 19 schools did not participate in the study. The distribution and characteristics (e.g., SES, Achievement, ADA) of elementary and secondary schools in the nonresponding sample was roughly equivalent to those that did not respond.

Instrumentation

Organizational Coupling Structure Inventory-Teacher Form: School coupling structure was measured by the Organizational Coupling Structure Inventory-Teacher Form (OCSI-T) (Logan & Ellett, 1989). The OCSI-T has undergone considerable development to establish both construct validity and internal consistency reliability. The form used in this study was a 98-item form derived from a previous exploratory factor analysis of 171 items using a sample of some 700 teachers. Development and refinement of the OCSI-T has been described in detail in Logan & Ellett (1989).

Validity. The initial construct and content validity of the OCSI-T was established in prior research. The best review of this work can be found in Logan and Ellett (1989). Three essential processes were used in establishing the initial content and construct validity of the OCSI-T. First, the conceptual basis of the coupling construct was identified from a comprehensive review of the extant theoretical and research literature in organizational coupling. Nine key concepts/dimensions pertinent to the construct of coupling were identified: 1) centralization of decision-making processes, 2) goal consensus, 3) autonomy, 4) formalization, 5) evaluation/feedback,

6) resources, 7) communication, 8) culture and (9) open/closed environment.

Secondly, an extensive review of instruments and instrument items previously used to operationalize many of the nine dimensions was completed. Based upon this review and operational definitions associated with each of the nine coupling elements, an item pool was developed. The classification of these items on various coupling dimensions and the content of items was reviewed by selected educational administration faculty and professional educators familiar with schools as organizations and the coupling construct.

Third, a pilot study and subsequent factor analyses of the 171-item OCSI-T were conducted with a sample of approximately 700 teachers (Logan and Ellett, 1989). These analyses reduced the OCSI-I to 98 items comprising six (6) coupling dimensions: 1) Goal Consensus/Vision, 2) Manipulative Control, 3) Work Scrutiny, 4) Standardization, 5) Autonomy and 6) Centralized Decision-making.

Reliability. The initial sample used to establish reliability as well as construct validity of the OCSI-T consisted of 10 elementary and 10 secondary schools, and 697 teachers. The internal consistency reliability coefficients for the six subscales ranged from .58 to .90 (Logan and Ellett, 1989).

Structure/Scoring. Responses to each item of the OCSI-T are obtained using a four-point Likert rating scale ranging from 1-"strongly disagree" to 4-"strongly agree". The form of the OCSI-T used to collect data in this study consisted of 6 dimensions/scales and 98 items. The number of items per scale ranged from 7 to 26. Thus, scores on the OCSI-T subscales range from 28 to 104. High scores on an OCSI-T dimension/scale indicate a greater degree of tight coupling, whereas low scores on an OCSI-T dimension/scale indicate a greater degree of loose coupling.

Index of Perceived Organizational Effectiveness (IPOE): The IPOE (Miskel, Fevurly and Stewart, 1979) is a derivative of Mott's (1972) Index of Organizational Effectiveness that was modified by Miskel and his associates for use in schools. Overall effectiveness of the school is rated along four dimensions: quantity and quality of product, efficiency, adaptability and flexibility. The IPOE is designed to yield an overall measure of perceived organizational effectiveness, not dimension scores. Therefore, only a total score for the instrument is reported.

Validity. Validity of the Index of Organizational Effectiveness (IOE) was established by Mott (1972) in ten hospital studies and in a study of the National Aeronautics and Space Administration. The original eight items were modified by Miskel, Fevurly and Stewart (1979) replacing those words pertaining to an industrial situation with

words indicating an educational setting. For example, "school" was substituted for "division".

Reliability. The internal consistency coefficient of reliability for the school version of the IPOE was reported at .89 by Miskel, Fevurly, and Stewart (1979) and .87 by Hoy and Ferguson (1985).

Structure/Scoring. The IPOE consists of four dimensions, with two items per dimension. For each item, respondents select one of five alternatives (scaled from 1-5) to assess how well their school achieves the specified objective. Scores for each item range from 1-"low effectiveness" to 5-"high effectiveness." Total instrument scores range from 5 to 40, with higher scores indicating greater perceived organizational effectiveness.

Data Collection Procedures

Individual survey packets containing a demographic information form, the Organizational Coupling Structure Inventory-Teacher Form (OCSI-T) (Logan and Ellett, 1989) and the Index of Perceived Organizational Effectiveness (IPOE) (Misket, Fevurly and Stewart, 1979) were packaged and distributed to all teachers in each of the 96 schools during the late spring of 1989.

Teachers were requested to complete a survey instrument within five (5) working days from the time it was received. At each participating school, the principal was asked to designate an individual such as grade level chairperson, the school librarian or counselor or another professional to help distribute and collect the completed surveys. Additionally, due to the confidentiality of teachers' responses, the principal was asked to designate a person to assist in collecting the surveys that was viewed by teachers as an individual that would protect this agreement. Completed surveys from each school were packaged and returned to the district office where they were boxed and mailed to Louisiana State University for processing.

Standardized Student Achievement and School Average Daily Attendance Data

Student achievement. Student achievement was measured by normal curve equivalent (NCE) scores from subtests and the battery total scores for: 1) the Iowa Tests of Basic Skills (ITBS) for elementary students and 2) the Tests of Achievement and Proficiency (TAP), a derivative of the ITBS, for secondary students. The ITBS and the TAP were administered to students as part of district testing in the spring of 1989. NCE composite scores were used in the analyses. School mean scores were computed by averaging NCE composite scores over multiple grade levels.

Attendance. The percentage of average daily attendance (ADA) for each school was computed over all

reporting periods and for the month of May for the 1988-89 school year. These data were made available for each school by the district central office.

Research Design

The design of this study was an ex post facto design in which the variables were assigned and not manipulated (Campbell and Stanley, 1963).

Independent Variables. Independent variables in the research design were six dimensions of the coupling structure of schools: 1) Goal Consensus/Vision, 2) Manipulative Control, 3) Work Scrutiny, 4) Standardization, 5) Autonomy and 6) Centralization.

Dependent Variables. Dependent variables in the research design were school mean achievement, school average daily attendance and perceived school effectiveness as measured by the IPOE.

Data Analyses

Descriptive Statistics. Summary statistics were completed for the dependent and independent variables and for pertinent demographic variables in the research study. Means, standard deviations and mean scores expressed as percentage of the maximum possible score were computed for each independent variable and the IPOE (dependent variable) for the total sample of schools and by school level (elementary and secondary). Means and standard deviations were computed for standardized student achievement scores and ADA for the total sample of schools and by school level. Elementary schools were typically defined by grades K-7. Secondary schools were typically defined by grades 8-12.

Instrument Structure. Data collected with the OCSI-T were subjected to a series of factor analyses to examine whether the factor structure suggested in the Logan and Ellett (1989) pilot work was maintained with a larger sample of teachers. Using teachers as the units of analysis, orthogonal solutions were computed using varimax rotation procedures to maximize independence of dimensions of the OCSI-T. Subsequently, separate intercorrelational matrices among factors were generated using items retained on factors by inspection and by using factor scores for each respondent. These analyses served to further verify the independence of factors and to examine possible intercorrelations among the factors.

Based on the results of the factor analyses of the OCSI-T, items were retained on subscales identified

according to a set of decision rules for factor loadings (e.g., magnitude, independence of loadings, etc.). Subscales and items retained with the established decision rules were used in subsequent data analyses that examined reliability and validity issues.

Reliability. Cronbach Alpha internal consistency reliability coefficients were computed for subscales of the OCSI-T and the IPOE using teachers as the units of analysis.

Validity. A series of Pearson Product-Moment correlation coefficients were computed between the various independent and dependent variables within the research design using school means as the unit of analysis.

Results

Factor Analyses of the OCSI-T

In order to test hypotheses about the structure of the coupling concept, a exploratory factor analysis was conducted for the OCSI-T data set. Inspection of the data set revealed that the number of missing item scores for individuals was rather infrequent (less than 10 individuals had more than 50% missing items scores). Therefore, item grand means were used for missing items scores for individual respondents to maximize the number of usable cases for the various factor analyses completed.

In an attempt to verify the original classification of the 98 items into the six categories/dimensions (Logan & Ellett, 1988), preliminary analyses were performed by submitting the OCSI-T data to a variety of factor analysis solutions extracting from one to ten factors using orthogonal (varimax) rotation procedures. Based on the simplicity of the structure, the conceptual fit of the items comprising each factor and the variance explained by each solution, a five-factor solution was retained. The five-factor solution was retained because a sixth factor was not clearly identifiable.

To examine the effects of allowing for moderate intercorrelations among items, both oblique and orthogonal factor analyses were completed using teachers as the units of analysis (n=1843). The Pearson product-moment correlation matrix developed from item scores revealed that the degree of item dependency varied considerably. The correlation coefficients among one-third of the items were less than or equal to .30, indicating relatively independent items. Another one-third of the items possessed correlation coefficients between .31 and .50, indicating items that were rather moderately correlated and, for the most part independent. An additional one-third of the items possessed

correlation coefficients between .51 and .70, indicating items that were moderately to rather highly correlated. Several correlations were below .10 while others were above .70. The range in coefficients was from .002 to .87.

A comparison of the oblique and orthogonal analyses for a one-factor and a five-factor solution identified, with few exceptions, identical item patterning and loadings. A total of 53 of the 67 items loading on the orthogonal analyses also loaded on the oblique analyses with identical item patterning but slightly lower coefficients. Additionally, subsequent oblique and orthogonal factor analyses were also completed by school level (elementary and secondary). A comparison of the oblique and orthogonal analyses for elementary and secondary teachers also identified, with few exceptions, identical item patterning and loadings.

For the one-factor solution, 61 of the 98 items loaded on a single OCSI-T factor. Factor loading coefficients ranged from .30 to .71, with 32 of the 98 items (32.6%) loading at or exceeding .50. This one-factor solution accounted for 17.52% of the total OCSI-T variance. Varimax rotation procedures were also used to identify a set of five orthogonal factors in the solution. The item loadings on the various factors reflect the following set of decision rules applied to the results: 1) the minimum value for retaining an item on a factor was .30; 2) an item was retained on the factor on which its loading was greatest; 3) an item was retained only if it loaded primarily on one factor; and 4) if an item loaded on more than one factor, the item was retained only on a factor if the difference between the two highest loadings was .20 or greater.

Application of these decision rules resulted in the assignment of 64 OCSI-T items to each of five factors. Three additional items having differences of less than .20 (but greater than .15) between loadings were retained on factor five. The decision to retain these three items was based on three concerns: 1) the items conceptually fit the additional items comprising the factor; 2) the three items had loaded on the same factor in a previous pilot test of the OCSI-T; and 3) the internal consistency reliability of the factor was increased when each of the three items was retained. Thus, in total, 67 items were retained to operationalize each of the five factors.

The first factor (Goal Consensus/Vision) accounted for 12.86 percent of the variance in the solution and consisted of 26 items. The second factor identified (Work Scrutiny) consisted of 12 items. This factor accounted for 6.64 percent of the total OCSI-T variance. Factor three (Manipulative Control), accounting for 5.15 percent of the variance, contained 11 items. The fourth factor (Autonomy) explained 3.93 percent of the variance in the

solution and contained all 11 items previously classified under the Autonomy dimension. Centralization, the fifth factor, contained 7 items and accounted for 3.46 percent of the variance in the solution.

The five-factor solution accounted for 32.04 percent of the total OCSI-T variance. A total of 67 items with factor structure loadings ranging from .30 to .69 were retained for the revised version of the OCSI-T used in subsequent analyses to examine research questions. Intercorrelation matrices among the five factors were generated using items retained on factors by inspection and factor scores for each respondent. These analyses served as an additional check on the independence of factors. Table 2 presents a summary of these results.

A second, separate factor analysis was completed for the 26 items comprising Factor 1 (Goal Consensus/Vision). Preliminary analyses were performed by submitting the data to a variety of factor analysis solutions extracting from one to five factors using orthogonal (varimax) rotation procedures. Based on the simplicity of the structure, the conceptual fit of the items comprising each factor and the variance explained by each solution, a two-factor solution was retained. Based on the application of the same set of decision rules as applied to the first-order factor analyses, 22 of the 26 Goal Consensus/Vision items were assigned to the two factors. (Factor structure loadings for the two-factor solution ranged from .45 to .72.) The first factor (Goal/Values Communication) accounted for 6.12 percent of the variance in the solution and consisted of 12 items. The second factor identified (Goals/Values Commonality) consisted of 10 items and accounted for 5.75 percent of the total variance. This two-factor solution accounted for 11.87 percent of the total subscale variance.

Cronbach Alpha internal consistency reliability coefficients for Factor One (Goals/Values Communication) and Factor Two (Goals/Values Commonality) were .83 and .45, respectively. Inspection of item statistics for Factor Two revealed that three items did not differentiate teachers in terms of their scores and if deleted the Alpha reliability coefficient estimate would be .60 for this factor.

Descriptive Statistics for Instruments

OCSI-T: Item descriptive statistics for the 67-item OCSI-T were computed for the total sample of schools (n=73). The item means ranged from 1.70 (item 98) to 3.66 (item 3). Sixty-three items had scores at or exceeding the midpoint of 2.5, with 34 items having scores below the midpoint. Higher mean scores for items correspond to "tighter" coupling. The standard deviations for the items ranged from .40 to .13.

A summary of descriptive statistics for each subscale of the revised 67 item OCSI-T, for all schools and by school level, is presented in Table 3 and Table 4, respectively. Subscale means and standard deviations are included in each table, as well as, the maximum possible score and mean scores expressed as a percentage of the maximum possible score. The percentage of the maximum possible score for each subscale allows for easier comparison of the subscales on their respective degrees of coupling because the number of items comprising the subscales varies. Thus, the percentage of maximum possible scores can be interpreted as indices of "the degree of tight coupling" perceived by teachers as a whole, or by school level, regarding each coupling dimension/subscale. For the OCSI-T, higher scores indicate a greater degree of tight coupling. For the total sample of schools (n=73) percentages of the maximum possible scores for subscales varied from 57% (Manipulative Control) to 72% (Work Scrutiny). When considering differences between elementary and secondary schools in the sample (Table 4), percentages of the maximum possible scores for subscales ranged from 57% (Manipulative Control) to 72% (Work Scrutiny) for elementary schools and from 57% (Autonomy) to 71% (Work Scrutiny and Centralization) for secondary schools

IPOE: A high score on the 8-item IPOE signifies a high degree of organizational effectiveness as perceived by teachers. The possible score range for this instrument was 8 to 40. Table 5 presents a summary of descriptive statistics for each IPOE item and total instrument for the total sample of schools and by school level. The mean score for all schools in the sample was 30.03, with a standard deviation of 2.28. The mean score for elementary and secondary schools was 30.25 and 29.35, respectively.

Reliability Analyses

OCSI-T: Table 6 presents a summary of Cronbach Alpha internal consistency reliability coefficients for each of the five OCSI-T subscales for all schools and by school level. The Alpha coefficients for the five subscales for all schools ranged from .60 (Centralization) to .86 (Goal Consensus/Vision). The Alpha coefficients for the subscales ranged from .60 (Centralization) to .87 (Goal Consensus/Vision) for elementary teachers and from .58 (Centralization) to .87 (Work Scrutiny) for secondary teachers.

IPOE: The Cronbach Alpha reliability coefficient for the eight-item IPOE was .88 for all schools, .88 for elementary schools and .89 for secondary schools.

Intercorrelations of OCSI-T Subscales

Table 7 presents a summary of the intercorrelations between the five OCSI-T subscales for the total sample of schools (n=73). Pearson product-moment correlations among the subscales ranged from -.02 to .60. The coupling subscale/dimension of Goal Consensus/Vision was positively and rather strongly associated with the subscale/dimension of Work Scrutiny (.60, p<.0001). The correlation between the subscales of Manipulative Control and Autonomy (-.38, p<.0001) was negative in direction and moderate in magnitude, as were the correlations between Autonomy and Work Scrutiny (-.29, p<.01). Goal Consensus/Vision and Manipulative Control (-.41, p<.0001) and Goal Consensus/Vision and Centralization (-.46, p<.0001).

Correlations for both elementary and secondary school samples were similar in direction and magnitude to the correlations for the total school sample, with one exception. The magnitude of the correlation between Work Scrutiny and Autonomy was somewhat stronger in secondary schools (r= -.46, p<.05) than in elementary schools (r = .20, p<.05).

Validity Analyses

Pearson product-moment correlation coefficients between subscales for the five-factor solution of the OCSI-T and the standardized student achievement scores, average daily attendance (ADA) for all reporting periods for the 1988-89 school year and scores on the IPOE were computed to examine the criterion-related validity of the OCSI-T. Table 8 provides summaries of the intercorrelations between the OCSI-T subscales and student achievement for all schools and by school level. Correlations between student achievement and Goal Consensus/Vision (r = .39, p<.001) and Work Scrutiny (r = .33, p<.01) were statistically significant, positive in direction and moderate in magnitude. The correlation between student achievement and Manipulative Control was statistically significant, negative in direction and moderate in magnitude (r = -.39, p<.001). Correlations between student achievement and the coupling dimensions of Goal Consensus/Vision, Work Scrutiny and Manipulative Control in elementary schools were statistically significant, and moderate in magnitude. None of the correlations between the coupling subscales and student achievement for the secondary schools were statistically significant. However, the magnitude and direction of relationships shown is similar to the elementary and total school groups.

The correlations between the coupling subscales/dimensions and the IPOE ranged from -.03 to .84. Table

9 presents a summary of the correlations between IPOE, ADA, and the coupling subscales. The correlations between the IPOE and the subscales of Goal Consensus/Vision and Work Scrutiny for all schools were statistically significant, positive in direction and rather strong in magnitude ($r=.84$, $p<.0001$ and $r=.63$, $p<.0001$, respectively). Partial correlations between the IPOE and Goal Consensus/Vision (controlling for SES and size) only reduced the magnitude of the correlation to .82, ($p<.001$). Partial correlations between the IPOE and Work Scrutiny (controlling for SES and size) reduced the magnitude of the correlation to only .61 ($p<.001$).

The correlation between the IPOE and Manipulative Control for all schools was statistically significant, negative in direction and moderate in magnitude (-.41, $p<.001$), as was the correlation between Centralization and the IPOE (-.35; $p<.01$). Similar relationships were obtained for elementary schools. When considering secondary schools, statistically significant correlations were found between the IPOE and the subscales of Goal Consensus/Vision and Work Scrutiny. The magnitude of the correlation between Work Scrutiny and the IPOE was somewhat greater for secondary schools than for elementary schools. While not statistically significant, the magnitude and direction of the relationship between Manipulative Control and the IPOE is identical to the elementary and total school groups.

Correlations between ADA and the coupling subscales ranged from -.13 to .44 for all schools. Statistically significant, positive correlations were found between ADA and Goal Consensus/Vision ($r=.44$ $p<.0001$) and between ADA and Work Scrutiny ($r=.33$, $p<.01$). Correlations between ADA and Autonomy were statistically significant, negative in direction and moderate in magnitude ($r=.39$, $p<.001$). When considering school level, correlations between ADA and the subscales of Goal Consensus/Vision and Work Scrutiny were statistically significant, positive in direction and moderate in direction for elementary schools. None of the correlations between the OCSI-T subscales and ADA were statistically significant for secondary schools. However, the magnitude and direction of the relationship shown between Work Scrutiny and ADA is similar to the elementary and total school groups.

Correlations between ADA and the coupling subscales ranged from -.13 to .44 for all schools. Statistically significant, positive correlations were fund between ADA and Goal Consensus/Vision ($r=.44$, $p<.0001$) and between ADA and Work Scrutiny ($r=.33$, $p<.01$). Correlations between ADA and Autonomy were statistically significant, negative in direction in moderate in magnitude ($r=.39$, $p<.001$). When considering school level, correlations between

ADA and the subscales of Goal Consensus/Vision and Work Scrutiny were statistically significant, positive in direction and moderate in direction for elementary schools. None of the correlations between the OCSI-T subscales and ADA were statistically significant for secondary schools. However, the magnitude and direction of the relationship shown between Work Scrutiny and ADA is similar to the elementary and total school groups.

Based on the results of the separate factor analysis of the OCSI-T Goal Consensus/Vision dimension, Factor One (Goals/Values Communication) and Factor Two (Goals/Values commonality) were correlated with dependent variables in the design. Statistically significant ($p<.05$) correlations were found between Factor One and school achievement ($r=.38$), ADA ($r = .45$) and the IPOE ($r = .79$). Statistically significant ($p<.05$) correlations were found between Factor Two and ADA ($r = .34$) and the IPOE ($r = .71$). Similar relationships were evident for elementary and secondary school groups.

Discussion, Conclusions, and Implications

The overall purpose of this study was to utilize the organizational perspective of coupling to extend understandings of effective schools as complex social systems. Three major objectives of the study were to : 1) continue the development and piloting of a theory-based inventory to measure the coupling structure of schools; 2) examine relationships between coupling structure and perceived organizational and actual school effectiveness; and 3) explore the "paradoxical" nature of coupling as suggested by Orton and Weick (1988).

Instrument Development and Refinement

This study focused on the continued development and refinement of the Organizational Coupling Structure Inventory - Teachers (OCSI-T). The OCSI-T was found to be a reasonably valid and reliable inventory for measuring five dimensions of organizational coupling structure in schools from the teacher perspective: 1) Goal Consensus/Vision; 2) Manipulative Control; 3) Work Scrutiny; 4) Autonomy; and 5) Centralization. The coupling dimensions measured by the OCSI-T generally replicated dimensions identified in previous pilot research (Logan and Ellett, 1989). The OCSI-T dimensions identified in this study were for the most part, statistically independent and they demonstrated moderate to high internal consistency reliabilities. The Centralization dimension appears to need additional work to increase its reliability. The five OCSI-T dimensions identified through these analyses replicated and remained stable in subgroups of elementary and secondary teachers.

The one-factor solution of the OCSI-T accounted for 17.52 percent of the total variance in the solution. However, the five-factor solution, though the variance accounted for by some factors was less than desired, accounted for far more total variance in the solution (32.04 percent) than the one-factor solution. A relatively "stringent" criterion for retaining a factor based on a decision making rule of perhaps, ten percent of the variance explained, might suggest that the OCSI-T can be considered primarily a uni-dimensional measure of the coupling construct. However, retention of a factor based on the amount of variance explained by the factor in a particular solution is not "methodologically fixed." Therefore, it is up to the researcher to decide how much variance should be accounted for by a particular factor in a particular solution to make a factor retained meaningful and interpretable. In addition, the purpose of the research study, the analysis method used to extract factors, the eigen values for factors retained, the number of total items comprising the instrument factored, the ensuing validity and reliability of factors retained, the characteristics of the sample on which the analyses were completed and other considerations, are important concerns in deciding to retain or not to retain a factor in a given solution. This same degree of complexity is also evident in the simpler decision to retain items on particular factors based on their factor loadings.

Several findings from this study support the final decision to consider the five-factor solution of the OCSI-T as the "best" solution. First, when the initial factor matrix was rotated, the amount of variance explained by factors two, three, four and five increased. Of course, the variance explained by factor one in the non-rotated solution was somewhat decreased in the rotated solution. This finding suggests that some initial factor one variance more appropriately is associated with factors two, three, four and five in the rotated solution.

Second, the alpha reliabilities for all factors retained in the five-factor solution, with the possible exception of factor five (Centralization), were of acceptable magnitude. Third, the criterion-related validity of the first factor (Goal Consensus/Vision) slightly increased as a result of the five-factor solution (r-.39, Goal consensus/Vision with Achievement; r=.84, Goal Consensus/Vision and IPOE). In addition, subsequent factors extracted (Work Scrutiny and Manipulative Control) also showed significant criterion-related validities.

Considering more practical concerns, a multi-dimensional measure of school coupling structure, with demonstrated reliability and validity, may be more useful in "diagnosing" school coupling characteristics than a uni-dimensional measure. In addition, the face validity of items comprising the initial one-factor solution seems

questionable.

From the theoretical perspective, and for the purposes of future research it seems more beneficial to continue to explore the coupling construct as a multi-dimensional phenomenon. Accepting the one-factor solution of the OCSI-T in this study as the best solution may somewhat inhibit explorations of the multi-dimensional nature of coupling in future research studies with the OCSI-T. This seems particularly the case when considering the nature of the schools in this sample. For example, they were all derived from a large, urban school district that had been involved in a variety of unified, school improvement efforts during the past few years. These efforts may have served to restrict variability in teachers' perspectives of coupling. From the factor analytic view, future studies using a more "mixed" sample of schools might well tap increased variability in teachers' perspectives of coupling and might provide further evidence of the multi-dimensional nature of the coupling construct as well.

From a purely methodological viewpoint, increasing variability in an OCSI-T data set (all other variables being equal) should increase item/factor loadings, subsequent eigen values, and the amount of variance explained in a solution by a given factor. This tenet seems worthy of exploration in future studies using stratified, random samples of schools.

In the five-factor solution retained, examination of items comprising the first factor (Goal Consensus/Vision) suggested that this factor is conceptually complex. Therefore, a subsequent factor analysis was computed on only the item set comprising factor one. The results of this analysis indicated that this dimension is conceptually comprised of two distinct elements: 1) Goals/Values Communication; and 2) Goals/Values Commonality.

Considered collectively, the results of factor analytic work reported in this study suggest that coupling is a complex construct that is best understood in terms of multiple sub-constructs. Manipulative Control appears to be a key sub-construct not previously recognized in the literature on organizational coupling. Additionally, these findings suggest that teacher perceptions of organizational coupling can be measured with sets of reasonably homogeneous items.

An additional aspect of instrument development bears on the criterion-related validity of the OCSI-T. Correlations among the various dimensions of the OCSI-T and different effectiveness indices indicate that the dimensions have different degrees of criterion-related validity depending upon the effectiveness indices used. These

findings lend support to the construct validity of the OCSI-T, and suggest that the criterion-related validity of this instrument may best be understood from a perspective that takes into account both the coupling dimension/subscale of the OCSI-T and the effectiveness criterion that is under study. These findings suggest that additional criterion-related validity studies of the OCSI-T subscales show promise in further supporting the overall validity of the OCSI-T.

The results support not only the multi-dimensionality of the coupling construct but the relative independence of these dimensions. These findings suggest that coupling dimensions are not additive in any manner that would lead to an overall "level" or "degree" of coupling strength. What seems to be more important for understanding the nature of coupling in schools, is the coupling structure or pattern of coupling resulting from varying degrees/strengths of coupling on multiple dimensions of a complex and multi-faceted construct. The results of this study reasonably replicate the subscales/dimensions of the coupling construct found in a previous study (Logan and Ellett, 1989). Thus, characteristics of the coupling construct appear stable and generally replicate from one school sample to the next.

An additionally interesting conclusion drawn from these findings relates to the coupling dimension of Goal Consensus/Vision. This dimension appears to also be more complex than previously described in the literature. The results of a separate factor analysis of the Goal Consensus?Vision subscale of the OCSI-T indicated that this subscale is composed of two underlying factors that are strongly correlated ($r = .70$). A higher internal consistency reliability for Factor One and higher correlations among this factor and dependent variables lend support for the utility of this subscale of Goal Consensus/Vision in future studies of organizational coupling. Collectively, the findings suggest that if a shortened version of the Goal Consensus/Vision dimension of the OCSI-T was desired, items comprising Factor One (Goals/Values Communication) of this dimension would be the most important items to include.

Validity Issues

The findings reported here suggest that the metaphor of a "tight ship" approach reflected in the literature on the management of effective schools may not be an appropriate metaphor at all. A more appropriate metaphor might be a "fluid ship" approach to the management of effective schools, which implies that the "tightness" or "looseness" of the relationship depends upon the particular coupling dimension and school effectiveness indices being

considered. The description of the coupling construct as a "paradox" (Orton and Weick, 1988) implies that effective schools encompass a variety of different coupling structures and that the popular metaphor of a "tight ship" approach to the management of effective schools may not be applicable in all situations.

The findings from this study also suggest that certain coupling dimensions appear more useful to our understanding of the "holding power" (Morris, 1986) of schools (as indicated by ADA), while other coupling dimensions have more utility for understanding "productivity" indices of school effectiveness (as defined by school achievement). Still other coupling dimensions have utility for understanding the perceived "organizational" effectiveness of a school. For example, the coupling dimensions of Autonomy, Goal Consensus/Vision, and Work Scrutiny may be more useful in understanding school "holding power" (Morris, 1986) because of their demonstrated relationships to student attendance. However, the coupling dimensions of Manipulative Control and Goal Consensus/Vision appear to be more important coupling variables when attempting to understand relationships between coupling and school achievement. Goal Consensus/Vision appears to be the variable of choice when attempting to understand the relationships between school coupling structure and the overall organizational effectiveness of a school. Thus, the theoretical utility of the coupling "paradox" as recently described in the literature (Orton and Weick, 1988) may only be given meaning in view of specification of a variety of school and organizational outcomes.

Overall, the coupling perspective appears more useful to understanding effective schools as <u>organizations</u> than to understanding effective schools in view of school productivity (student achievement) or indices of school holding power (e.g., student attendance). The effective schools literature tends to describe effective schools only in terms of student achievement and the "tight ship" approach to school management. Future studies of coupling and school effectiveness indices such as achievement and attendance might profit from taking into consideration a variety of organizational effectiveness variables that may serve to mediate relationships between coupling and effectiveness.

<u>Theoretical/Methodological Issues</u>

While the dimensions of Goal Consensus, Work Scrutiny, Autonomy and Centralization are reminiscent of previous conceptions of organizational coupling (Firestone and Herriott, 1982; Firestone and Wilson, 1985), those

items focusing on administrator control of resources in an unstandardized and/or informal manner suggest a noteworthy insight about the coupling concept. The items contained within this Manipulative Control dimension primarily focus on the control of resources and the preferential or inequitable use of resources by administrators to coordinate and manage the school. In contrast, the Standardization dimension, containing items conceptually focused on the degree to which standard and formal procedures are followed in performing various functions or in obtaining supplies (resources) within the school, was not supported in this study.

Theoretically, adherence to formal and standardized procedures has been associated with bureaucratic structure in organizations and conforms to the image of organizations as rational bureaucracies rather than to the image of organizations or systems characterized by anarchy or described as loosely coupled (Firestone and Herriott, 1982). Gamoran and Dreeben (1986) have argued that administrators can couple a school by regulating the flow of resources to classrooms and such regulation can perhaps influence the content of instruction as well as subsequent student learning. While both the Standardization and Manipulative Control dimensions pertain to aspects of resource allocation, the Manipulative Control dimension focuses on the degree to which means or assets (e.g. personnel, time, materials and knowledge) are regulated by the administrator within a school.

The focus of the set of items contained within the Manipulative Control dimension on the OCSI-T appears to be conceptually similar to a political phenomenon recently reported by Blase (1988) as "favoritism." According to teachers in the Blase (1988) study, "favoritism refers to the perceived inequitable (unfair) use of authority and power, particularly by school officials, for the general purposes of protection and control." When teachers described the role of school principals and the practice of favoritism they cited examples such as: 1) hiring, promoting and extending special favors to friends; 2) manipulating opportunities to attend county and state seminars, workshops and conferences; 3) preferential treatment associated with participation in the school program and policy decisions; 4) favoritism associated with resource allocation such as, materials, equipment, space allocation; 5) protection of favored individuals from bad classes and rough schedules, 6) principal favoritism associated with teacher evaluations; 7) special treatment considerations concerning disbursed information and sharing of confidential information; and 8) favoritism in the distribution of rewards associated with work performance and special achievements of teachers (Blase, 1988). These teacher reports have a striking similarity to items comprising the Manipulative Control

subscale/dimension of the OCSI-T. The OCSI-T items focus on administrator manipulation of evaluations, information, time, supplies and opportunities for professional development.

The findings relative to Manipulative Control suggest support for the paradoxical (P) view of the coupling construct (Orton and Weick, 1988). For instance, Manipulative Control or favoritism by the school administrator probably can be understood in terms of a coupling mechanism that strengthens administrator control over teachers. Some resources are allocated in this situation based on a need to nurture personal power rather than to logically support school goals. Manipulative Control might also be understood in terms of a decoupling or loosening of couplings between the administrator, the resource allocation system and the schools' instructional system(s). Certain outcomes might be anticipated form this relatively modest example of P coupling. For example, teacher alienation and a degree of randomness in student progress, as well as an increase in cohesive administrator power, might result from high Manipulative Control. To some, this situation might be an example of a "tight ship" approach, but it is also unlikely that this situation is the kind of "tight ship" advocated in the effective schools literature. The distinction might be that equally effective schools may require different mixes of coupling structures, and thus, effective schools are best understood in terms of observed school outcomes rather than specific organizational characteristics. If this is the case, then the prescriptive literature on the characteristics of effective schools (Block, 1983) seems questionable.

The degree of coupling perceived by teachers on each of the OCSI-T subscales ranged from moderately coupled to strongly coupled. It is surprising to note that none of the coupling dimensions were perceived by teachers as being relatively "loosely" coupled. These findings are in contrast to what might be expected in view of much of the literature on coupling in schools that describes schools as loosely coupled systems with ambiguous goals and a limited amount of inspection and evaluation (Weick, 1976; Weick, 1982; March and Olsen, 1976). In this study, teachers viewed Goal Consensus/Vision and Work Scrutiny as being rather tightly coupled. One factor possibly contributing to the "tightly coupled" image of schools in this study is the recent press for educational accountability and school reform. The widespread movement toward educational reform and improvement has been a predominant theme guiding American education in the 1980's. A central focus within the reform movement has been the instructional leadership role of principals with particular concern for more direct supervision of teaching (Ellett,

1987). Additionally, there is strong emphasis in the effective schools literature on the sharing of goals, values and norms. The school district in this study has placed a lot of value in recent years in bringing schools in line with the concept of effective schools and increased educational accountability. Thus, these factors may have precipitated a shift in the degree or coupling on various mechanisms (i.e. goal consensus/vision, work scrutiny) within these schools, resulting in greater degree of coupling on dimensions previously thought to be loosely coupled (Weick, 1976; March and Olsen, 1976).

The focus of this study was only on teachers' perspectives of a school's coupling structure. It may be useful to obtain perspectives of significant others within a school or from outside the school in order to establish a broader profile of the coupling structure of a school. For example, students or the principal within a school may perceive school coupling structure somewhat differently than teachers. Similarly, parents or district school board members may perceive the coupling structure of a school differently than the teachers and/or the principal in the school. Thus, the extent of tight or loose coupling on various coupling dimensions may depend on "who" is doing the perceiving and from "what perspective".

Previous work (e.g., Firestone and Herriott, 1982) suggests that elementary schools tend to have greater agreement on goals and more centralization of influence than high schools. Results of this study suggest that elementary and secondary schools are very similar on the five coupling dimensions measured by the OCSI-T. These discrepant findings might be partially explained by different measurement techniques used in this study and those completed by Firestone and Herriott (1982).

While acknowledging differences between these measurement techniques, one might still expect to find school level differences among the coupling dimensions considering the variation in school level characteristics, such as, student age, school size, faculty specialization and organizational complexity. One possible explanation for the lack of school level differences may be that all schools in this study were members of a single large, urban school district. While school-level variations may exist, overall, the district may exert a strong "unifying" influence through a top-down management orientation or through tight coupling on various mechanisms at the district level.

Whatever the case, it should be noted that in this study, these comparisons were made using schools as the units of analysis which may mask differences within schools. Issues concerning the unit of analysis have been

addressed before in the educational administration literature (Conklin, 1979). Conklin (1979) argues that within-school processes which vary primarily within (not between) schools lose their apparent effectiveness when analyzed at the school aggregate level. Specific probes of the data to investigate within-school variations on the various coupling dimensions and school effectiveness outcomes did reveal considerable variations (Logan, 1989). A more qualitative inspection of the data using plots of the coupling structure in contrasting samples of effective and ineffective schools revealed that coupling structure looks quite differently in these samples of schools. For example, some schools were relatively high in school achievement and Goal Consensus/Vision and Work Scrutiny, while other schools were low in achievement and high in Goal Consensus/Vision and Work Scrutiny. These findings lend support to the "paradoxical" nature and complexity of what coupling means in effective and ineffective schools (Orton and Weick, 1988). Therefore, as previously noted, the use of school mean comparisons may mask important individual differences among schools, and differences in within school variance on various coupling dimensions Masking this variability can hamper understanding the "paradoxical" nature of coupling as primarily a within school organizational construct.

One major goal of this study was to examine multiple coupling dimensions and multiple indices of school effectiveness. Of interest was the degree to which the various coupling dimensions related to organizational effectiveness on the one hand and school outcomes of achievement and attendance on the other. Overall, the findings suggest that the OCSI-T coupling dimensions, neither separately nor in combination, accounted for considerable variation in school achievement. These findings tend to run counter to what might be expected given findings reflected in the effective schools literature which emphasizes tight linkages on a set of common values and goals (Joyce, Hersh and McKibbin, 1983; Brookover, 1979; Abbott and Caracheo, 1987), frequent evaluations of teachers work by their principals (Rosenholtz, 1987), specifications of rules or formal procedures (Rosenholtz, 1987), and decentralized decision-making (Miskel, Fevurly and Stewart, 1979). However, based on the findings of this study, one might speculate that schools are so complex that the degree of coupling, on any one or combination of coupling dimensions is not a sufficient condition to enhance school achievement. This finding is consistent with descriptions of the organizational coupling structures of "instructionally effective schools" previously noted by Astuto and Clark (1985).

Studies of effective schools typically use student/school achievement as the operational definition of "effectiveness". Given the multiple purposes of schools and a variety of notions about organizational effectiveness (Miskel, Fevurly and Stewart, 1979) and "good" schools (Glickman, 1987), future studies of coupling and effective schools may profit from using multiple indices of effectiveness. In this study, selected coupling dimensions (Goal Consensus/Vision and Work Scrutiny) were strongly related to perceived organizational effectiveness and results suggested that these relationships are generalizable across school SES, size and level (elementary vs. secondary). Considered collectively, these findings suggest that future studies of coupling and effectiveness might best proceed with a primary focus on the effectiveness of the school as an organization rather than school achievement and other indices of school productivity. School achievement may not be an appropriate "effectiveness" index to use in future coupling/school effectiveness studies because of its strong relationship to a host of non-school variables that are not directly under the control or influence of the school such as SES, student ability and educational quality of the home environment (Walberg, 1978).

Effectiveness of the school as an organization, on the other hand, may systematically depend upon various degrees of coupling on important dimensions such as Goal Consensus/Vision and Work Scrutiny. Interestingly, perceived organizational effectiveness in this study was positively related to school achievement. Future studies using causal modeling techniques to study coupling, organizational effectiveness and school achievement may show that selected coupling dimensions are importantly linked to organizational effectiveness and that various levels of organizational effectiveness are in turn important precursors of subsequent school outcomes such as achievement. In addition, such studies may provide further insights about and support for the "paradoxical" nature of the organizational coupling construct as applied to school settings.

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Table 1

Profile of Sample for All Schools and By School Level

Characteristic	Schools		
	All*	El	Sec
Schools Responding	73	55	18
Teachers Surveyed	3034	1700	1349
Useable Surveys	1843	1207	636
% of Useable Surveys (n=1843)		65	35
Return Rate	61%	71%	47%
M Teacher Size	40	30	68
M Student Size	768	608	1248

* All = All Schools
El = Elementary
Sec = Secondary

Table 2

Summary of Intercorrelations Between the Factor Scores and the OCSI-T Subscales

Subscale	Goal Consensus/ Vision	Work Scrutiny	Manipulative Control	Autonomy	Central-ization
Goal Consensus/ Vision	1.0	-.56	-.31	.12	.16
Work Scrutiny		1.0	.13	.06	-.05
Manipulative Control			1.0	-.21	-.09
Autonomy				1.0	.05
Centralization				1.0	1.0

n = 1843

Table 3

Summary of Descriptive Statistics for Each Subscale of the Five-Factor Solution of the OCSI-T (n=73)

Subscale	Range	M	S.D.	Max. Possible Score	M% Max[b]
Goal Consensus/ Vision[a] (26)	62.33-79.55	71.83	3.80	104	69.06
Work Scrutiny (12)	29.80-39.98	34.67	2.24	48	72.22
Manipulative Control (11)	20.75-30.37	25.21	2.06	44	57.29
Autonomy (11)	23.41-30.31	26.75	1.60	44	60.79
Centralization (7)	17.90-21.27	19.95	0.70	28	71.25

[a] Number items on subscale

[b] M% Max = Subscale M score/Max possible score

Table 4

Summary of Descriptive Statistics for Each Subscale of the Five-Factor Solution of the OCSI-T By School Level

Subscale	M		S.D.		Max Possible Score	M% Max[b]	
	El	Sec	El	Sec		El	Sec
Goal Consensus/ Vision [a] (26)	72.52	69.72	3.58	3.79	104	69.73	67.03
Work Scrutiny (12)	34.86	34.10	2.27	2.08	48	72.62	71.04
Manipulative Control (11)	25.17	25.35	2.08	2.06	44	57.20	57.61
Autonomy (11)	27.29	25.10	1.34	1.18	44	62.02	57.04
Centraliz- ation (7)	19.92	20.05	0.75	0.53	28	71.14	71.60

[a] Number of items on scale

[b] M% Max = Subscale M Score/Max Possible Score

n = 55 El
n = 18 Sec

Table 5

Summary of Descriptive Statistics for Each Item and Total Instrument of the IPOE for All Schools and by School Level

Item	M			S.D.		
	All	El	Sec	All	El	Sec
1	3.81	3.81	3.82	.33	.34	.31
2	4.09	4.10	4.04	.27	.27	.27
3	3.71	3.73	3.64	.30	.31	.29
4	3.62	3.65	3.55	.38	.37	.39
5	3.53	3.57	3.40	.34	.34	.30
6	3.29	3.32	3.20	.29	.30	.23
7	3.90	3.96	3.74	.36	.36	.28
8	4.05	4.08	3.94	.31	.32	.24
TOTAL	30.03	30.25	29.35	2.28	2.32	2.07

n = 73 All
n = 55 El
n = 18 Sec

Table 6

Summary of Standardized Alpha Reliability Coefficients for OCSI-T Subscales for All Schools and By School Level

	Alpha Coefficients		
Subscale	All	El	Sec
Goal Consensus/Vision (26)*	.86	.87	.85
Work Scrutiny (12)	.86	.85	.87
Manipulative Control (11)	.75	.75	.75
Autonomy (11)	.77	.76	.78
Centralization (7)	.60	.60	.58

* Number of items on subscale.

n = 73 All
n = 55 El
n = 18 Sec

Table 7

Summary of Intercorrelations Among OCSI-T Subscales for the Total Sample of Schools (n=73)

Subscales	Goal Consensus/ Vision	Work Scrutiny	Manipulative Control	Autonomy	Central-ization
Goal Consensus/ Vision	1.00	.60*	-.41*	.10	-.46*
Work Scrutiny		1.00	-.02	-.29*	-.19
Manipulative Control			1.00	-.38*	.15
Autonomy				1.00	-.03
Centralization					1.00

* $p < .01$

Table 8

Summary of Intercorrelations Among Scores on the OCSI-T Subscales and Achievement Scores for All Schools and By School Level

	Achievement		
OCSI-T	All	El	Sec
General Consensus/ Vision	.39*	.43*	.32
Work Scrutiny	.33*	.34*	.34
Manipulative Control	-.39*	-.40*	-.35
Autonomy	.13	.23	-.22
Centralization	-.10	-.10	-.16

* Number of items per subscale

* $p < .01$

n = 73 All
n = 55 El
n = 15 Sec

Table 9

Summary of Intercorrelations Among Scores on the OCSI-T Subscales and Scores on the IPOE and ADA for All Schools and By School Level

Subscales OCSI-T	IPOE All	IPOE Elem	IPOE Sec	ADA All	ADA Elem	ADA Sec
Goal Consensus/ Vision[a] (26)	.84*	.86*	.81*	.44*	.42*	.18
Work Scrutiny (12)	.63*	.57*	.81*	.33*	.32*	.36
Manipulative Control (11)	-.41*	-.41*	-.41	-.13	-.21	-.04
Autonomy (11)	-.03	.16	-.21	-.39*	.19	-.30
Centralization (7)	-.35*	-.38*	-.17	-.19	-.26	-.08

[a] Number of items per subscale in parentheses.

*p< .01

n = 73 All
n = 55 El
n = 18 Sec

Appendix A

OSCI-T Subscales and Sample Subscale Items

Subscale I: Goal Consensus/Vision (26*)

A common set of school goals is communicated to all who work here.

Administrators in this school encourage teachers to participate in developing school policies.

Subscale II: Manipulative Control (11)

Any available "free time" teachers have is closely monitored by administrators in this school.

The copy machine is closely controlled by administrators in this school.

Subscale III: Work Scrutiny (12)

Procedures used to evaluate teaching make teachers "stay on their toes".

Administrators in this school evaluate my teaching by regular visits to my classroom.

Subscale IV: Autonomy (11)

As a teacher, I can make my own decisions concerning my class(es) without checking with anybody else.

As a teacher, I am allowed to do almost as I please.

Subcale V: Centralization (7)

While teachers' opinions regarding school policies/procedures are recognized, the principal makes the final decisions.

I participate in decisions concerning the adoption of new school policies.

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* Number of items per subscale

APPENDIX B

Index of Perceived Organizational Effectiveness (IPOE)
Miskel, Feverly & Stewart (197)

PART C: Every educator produces something during work. It may be a "product" or a "service". The following list of products and services are just a few of the things that result from schools:

Lesson Plans	Student Learning	Athletic Achievements	New Curricula
Community Projects	Teacher-Parent Meetings	Art and Music Programs	Instruction

Please indicate your responses by checking the appropriate line for each item.

a. Of the various things produced by the people you know in your school, how much are they producing?

____ (1) Low Production
____ (2) Fairly Low
____ (3) Moderate
____ (4) High
____ (5) Very High Production

b. How good is the quality of the products or services produced by the people you know in your school?

____ (1) Poor Quality
____ (2) Low Quality
____ (3) Fair Quality
____ (4) Good Quality
____ (5) Excellent Quality

c. Do the people in your school get maximum output from the available resources (money, people, equipment, etc.)? That is, how efficiently do they do their work?

____ (1) Not Efficiently
____ (2) Not Very Efficiently
____ (3) Fairly Efficiently
____ (4) Very Efficiently
____ (5) Extremely Efficiently

d. How good a job is done by the people in your school in anticipating problems and preventing them from occurring or minimizing their effects?

____ (1) A Poor Job
____ (2) An Adequate Job
____ (3) A Fair Job
____ (4) A Very Good Job
____ (5) An Excellent Job

e. How informed are the people in your school about innovations that could affect the way they do their work?

____ (1) Uninformed
____ (2) Somewhat Informed
____ (3) Moderately Informed
____ (4) Informed
____ (5) Very Informed

f. When changes are made in the methods, routines, or equipment, how quickly do the people in your school accept and adjust to the changes?

____ (1) Very Slowly
____ (2) Rather Slowly
____ (3) Fairly Rapidly
____ (4) Rapidly
____ (5) Immediately

g. How many of the people in your school readily accept and adjust to the changes?

____ (1) Few, If Any
____ (2) Less Than Half
____ (3) About Half
____ (4) Many More Than Half
____ (5) Almost Everyone

h. How good a job do the people in your school do in coping with emergencies and disruptions?

____ (1) A Poor Job
____ (2) An Adequate Job
____ (3) A Fair Job
____ (4) A Good Job
____ (5) An Excellent Job

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